

1. Solve the quadratic equation below. Then, choose the intervals that the solutions belong to, with $x_1 \leq x_2$ (if they exist).

$$17x^2 + 14x - 5 = 0$$

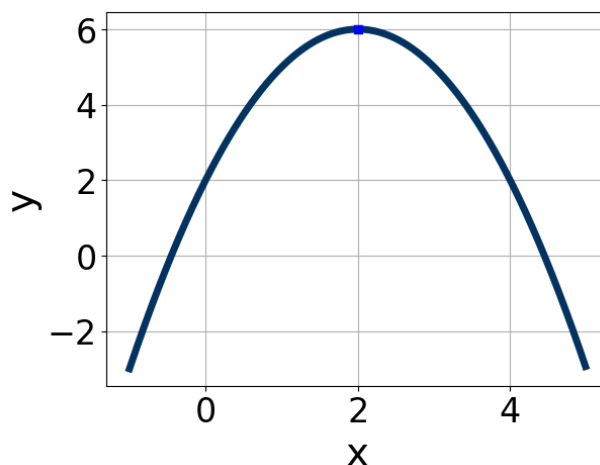
- A. $x_1 \in [-0.4, -0.1]$ and $x_2 \in [0.71, 1.59]$
 - B. $x_1 \in [-23.6, -21.9]$ and $x_2 \in [22.69, 23.43]$
 - C. $x_1 \in [-19.5, -17.5]$ and $x_2 \in [3.72, 5.33]$
 - D. $x_1 \in [-2, -0.9]$ and $x_2 \in [0.18, 0.3]$
 - E. There are no Real solutions.
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2. Solve the quadratic equation below. Then, choose the intervals that the solutions x_1 and x_2 belong to, with $x_1 \leq x_2$.

$$25x^2 + 60x + 36 = 0$$

- A. $x_1 \in [-30.76, -28.93]$ and $x_2 \in [-30, -29.94]$
 - B. $x_1 \in [-1.75, 0.49]$ and $x_2 \in [-1.24, -1.14]$
 - C. $x_1 \in [-3.31, -1.72]$ and $x_2 \in [-0.87, -0.59]$
 - D. $x_1 \in [-4.53, -2.51]$ and $x_2 \in [-0.45, -0.32]$
 - E. $x_1 \in [-7.83, -5.79]$ and $x_2 \in [-0.31, -0]$
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3. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that a , b , and c belong to.



- A. $a \in [-2.8, -0.7]$, $b \in [-6, -3]$, and $c \in [-11, -9]$
 B. $a \in [0, 3]$, $b \in [-6, -3]$, and $c \in [8, 12]$
 C. $a \in [-2.8, -0.7]$, $b \in [4, 8]$, and $c \in [1, 3]$
 D. $a \in [0, 3]$, $b \in [4, 8]$, and $c \in [8, 12]$
 E. $a \in [-2.8, -0.7]$, $b \in [-6, -3]$, and $c \in [1, 3]$

4. Factor the quadratic below. Then, choose the intervals that contain the constants in the form $(ax + b)(cx + d)$; $b \leq d$.

$$36x^2 + 60x + 25$$

- A. $a \in [3.9, 6.6]$, $b \in [2, 7]$, $c \in [5.47, 6.34]$, and $d \in [2, 8]$
 B. $a \in [10.9, 12.9]$, $b \in [2, 7]$, $c \in [2.8, 3.1]$, and $d \in [2, 8]$
 C. $a \in [-0.6, 1.6]$, $b \in [21, 31]$, $c \in [0.81, 1.95]$, and $d \in [29, 31]$
 D. $a \in [1.1, 4.3]$, $b \in [2, 7]$, $c \in [9.79, 12.69]$, and $d \in [2, 8]$
 E. None of the above.

5. Solve the quadratic equation below. Then, choose the intervals that the solutions x_1 and x_2 belong to, with $x_1 \leq x_2$.

$$10x^2 - 57x + 54 = 0$$

- A. $x_1 \in [0.21, 0.47]$ and $x_2 \in [13.33, 14.47]$
 - B. $x_1 \in [1.4, 1.73]$ and $x_2 \in [2.3, 3.91]$
 - C. $x_1 \in [0.77, 0.94]$ and $x_2 \in [5.55, 7.11]$
 - D. $x_1 \in [1.04, 1.36]$ and $x_2 \in [4.17, 5.36]$
 - E. $x_1 \in [11.91, 12.07]$ and $x_2 \in [44.83, 45.97]$
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6. Solve the quadratic equation below. Then, choose the intervals that the solutions belong to, with $x_1 \leq x_2$ (if they exist).

$$17x^2 + 14x + 2 = 0$$

- A. $x_1 \in [-11.99, -10.69]$ and $x_2 \in [-5.1, -3]$
 - B. $x_1 \in [-9.23, -7.19]$ and $x_2 \in [7.2, 8.2]$
 - C. $x_1 \in [-0.48, 1.54]$ and $x_2 \in [0.3, 1.9]$
 - D. $x_1 \in [-0.93, -0.26]$ and $x_2 \in [-0.4, 0.5]$
 - E. There are no Real solutions.
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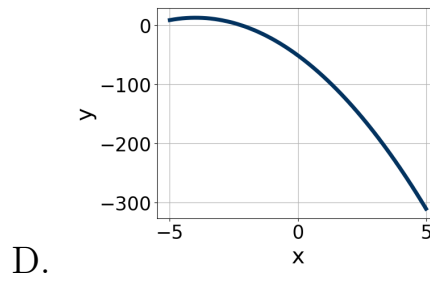
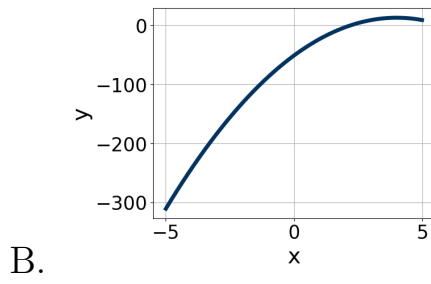
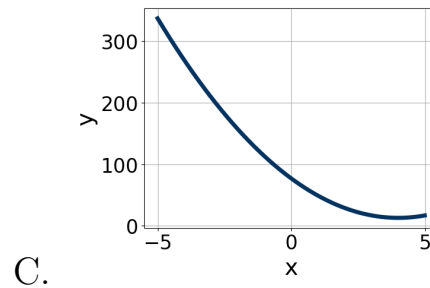
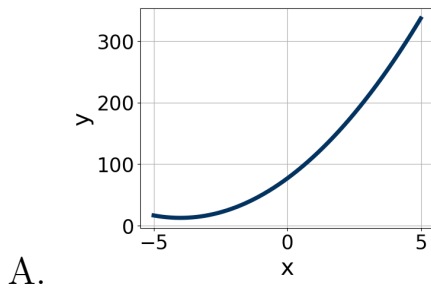
7. Factor the quadratic below. Then, choose the intervals that contain the constants in the form $(ax + b)(cx + d); b \leq d$.

$$24x^2 - 2x - 15$$

- A. $a \in [0.3, 2.3]$, $b \in [-24, -16]$, $c \in [-0.6, 3.4]$, and $d \in [16, 19]$
 - B. $a \in [2, 3.2]$, $b \in [-7, -4]$, $c \in [7.4, 8.3]$, and $d \in [-6, 5]$
 - C. $a \in [17, 21.2]$, $b \in [-7, -4]$, $c \in [-0.6, 3.4]$, and $d \in [-6, 5]$
 - D. $a \in [4, 7.3]$, $b \in [-7, -4]$, $c \in [3.9, 6.8]$, and $d \in [-6, 5]$
 - E. None of the above.
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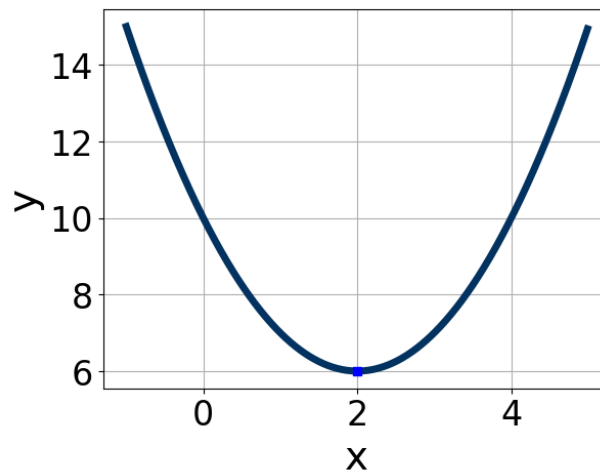
8. Graph the equation below.

$$f(x) = (x + 4)^2 + 13$$



E. None of the above.

9. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that a, b , and c belong to.

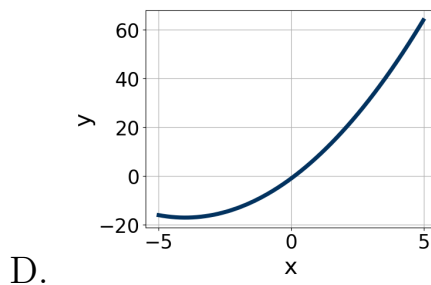
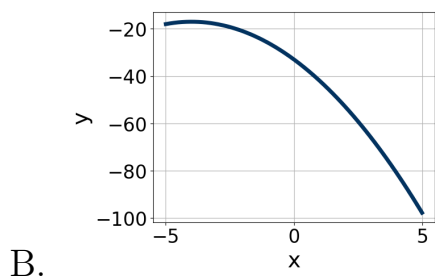
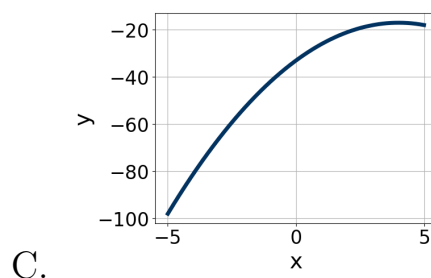
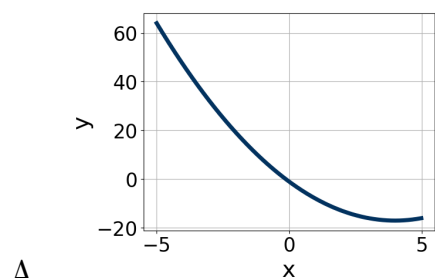


- A. $a \in [0.9, 1.7]$, $b \in [3, 7]$, and $c \in [8, 11]$
 B. $a \in [0.9, 1.7]$, $b \in [3, 7]$, and $c \in [-2, -1]$
 C. $a \in [-1.2, -0.7]$, $b \in [3, 7]$, and $c \in [2, 4]$
 D. $a \in [-1.2, -0.7]$, $b \in [-4, 0]$, and $c \in [2, 4]$

E. $a \in [0.9, 1.7]$, $b \in [-4, 0]$, and $c \in [8, 11]$

10. Graph the equation below.

$$f(x) = -(x - 4)^2 - 17$$



E. None of the above.
